

CLAIM AMENDMENTS

Claim Amendment Summary

Claims pending

- Before this Amendment: Claims 1-40.
- After this Amendment: Claims 1-40.

Non-Elected, Canceled, or Withdrawn claims: None.

Amended claims: 1, 11, 17, 30, and 36.

New claims: None.

Claims:

1. (Currently Amended) A system comprising:

a plurality of schedulers including a scheduler that is associated with a client and responsible for servicing a media data stream being sent to the client, the scheduler adapted to:

formulate a send request that designates the client as a destination for a media data portion of the media data stream;

calculate a priority for the send request; and

associate a unique global priority with the send request; and

a plurality of senders including a sender that is associated with media data including the media data portion, the sender adapted to send the media data portion to the client in response to the send request and wherein the sender includes a send request ranker adapted to rank send requests in order of the associated unique global priority.

2. (Original) The system as recited in claim 1, further comprising:

mass storage of media data;

wherein the sender is further adapted to acquire portions of the media data that is associated with the sender from the mass storage of media data.

3. (Original) The system as recited in claim 1, wherein the scheduler and the sender are functioning on a single device.

4. (Original) The system as recited in claim 1, wherein the scheduler is functioning on a first device, and the sender is functioning on a second device.

5. (Original) The system as recited in claim 4, further comprising:
a switch that is coupled to the second device and to the client via a network;

wherein the sender is further adapted to send the media data portion to the client via the switch over the network without routing the media data portion through the first device.

6. (Original) The system as recited in claim 4, further comprising:
a first switch that is coupled to the second device and to the client; and
a second switch that is coupled to the first device;
wherein the sender is further adapted to send the media data portion to the client via the first switch, and the scheduler is further adapted to transmit the send request to the sender via the second switch.

7. (Original) The system as recited in claim 4, wherein another scheduler is functioning on the second device, and another sender is functioning on the first device; and wherein the other scheduler is associated with another client, and the other sender is associated with other media data.

8. (Original) The system as recited in claim 1, wherein the media data stream corresponds to a media data segment that is stored by the system, and wherein the sender is functioning on a first device;

wherein the plurality of senders further include another sender that is functioning on a second device, the other sender associated with other media data including another media data portion; and

wherein the media data portion and the other media data portion are both parts of the media data segment.

9. (Original) The system as recited in claim 8, wherein the scheduler is further adapted to formulate another send request that designates the client as a destination for the other media data portion of the media data stream; and

wherein the other sender is further adapted to send the other media data portion to the client in response to the other send request.

10. (Original) The system as recited in claim 1, further comprising:

a plurality of devices;

wherein respective senders of the plurality of senders are functioning on respective devices of the plurality of devices, and respective devices are storing respective media data portions to which respective senders are respectively associated and adapted to send to clients.

11. (Currently Amended) A system comprising:

a first device having a first sender that is adapted to store a first media data block of a media data segment and to send the first media data block to clients responsive to send requests;

a second device having a second sender that is adapted to store a second media data block of the media data segment and to send the second media data block to clients responsive to send requests; and

a scheduler that is adapted to transmit to the first sender a first send request that designates a destination client and stipulates the first media data block and to transmit to the second sender a second send request that designates the destination client and stipulates the second media data block, wherein both the first send request and the second send request have a unique global priority associated therewith, the unique global priority including:

deadline data or early data; and

an option count of devices that have the stipulated first or second media data block, respectively, stored therein.

12. (Original) The system as recited in claim 11, wherein the first media data block is stored at the first device in random access memory (RAM) thereof, and the second media data block is stored at the second device in RAM thereof.

13. (Original) The system as recited in claim 11, wherein the scheduler is functioning on at least one of the first device, the second device, or a third device.

14. (Original) The system as recited in claim 11, wherein the first sender is further adapted to send the first media data block to the destination client without directing the first media data block through a device on which the scheduler is functioning.

15. (Original) The system as recited in claim 11, wherein the first sender is further adapted to send the first media data block to the destination client with a packet having a destination address comprising a network address of the destination client.

16. (Original) The system as recited in claim 11, further comprising:

another scheduler that is adapted to transmit to the first sender a third send request that designates another destination client and stipulates the first media data block and to transmit to the second sender a fourth send request that designates the other destination client and stipulates the second media data block.

17. (Currently Amended) One or more processor-accessible media comprising processor-executable instructions that, when executed, direct a system to perform actions comprising:

transmitting a send request from a first device to a second device, the send request designating a destination client and stipulating a media data portion;

ranking the send request based on an associated unique priority of the send request, wherein the associated unique priority is calculated by determining whether a plurality of devices store the media data portion, and wherein the associated unique priority is set to a lower priority if there is more than one device that stores the media data portion, and wherein the priority is set to a higher priority if there is only a single device that stores the media data portion, and wherein if none of the plurality of devices that store the media data portion

would send the media data portion if all of the plurality of devices were considered when calculating the priority, then selecting a single device of the multiple devices and calculating the priority based on the single device;

ascertaining a threshold priority based on the ranking and responsive to a send bandwidth; and in response to determining that the associated unique priority of the send request is greater than the threshold priority, honoring the send request by sending from the second device to the destination client the stipulated media data portion in response to the send request, wherein the first device is not the destination client.

18. (Original) The one or more processor-accessible media as recited in claim 17, comprising the processor-executable instructions that, when executed, direct the system to perform further actions comprising:

transmitting another send request from the first device to the second device, the other send request designating the destination client and stipulating another media data portion; and

sending from the second device to the destination client the other stipulated media data portion in response to the other send request.

19. (Original) The one or more processor-accessible media as recited in claim 17, comprising the processor-executable instructions that, when executed, direct the system to perform further actions comprising:

transmitting another send request from the first device to a third device, the other send request designating the destination client and stipulating another media data portion; and

sending from the third device to the destination client the other stipulated media data portion in response to the other send request.

20. (Original) The one or more processor-accessible media as recited in claim 19, comprising the processor-executable instructions wherein the stipulated media data portion and the other stipulated media data portion are both part of a single media data segment.

21. (Original) The one or more processor-accessible media as recited in claim 17, comprising the processor-executable instructions that, when executed, direct the system to perform further actions comprising:

transmitting another send request from a third device to the second device, the other send request designating another destination client and stipulating the media data portion; and

sending from the second device to the other destination client the stipulated media data portion in response to the other send request.

22. (Original) The one or more processor-accessible media as recited in claim 17, comprising the processor-executable instructions that, when executed, direct the system to perform further actions comprising:

transmitting another send request from a third device to a fourth device, the other send request designating another destination client and stipulating another media data portion; and

sending from the fourth device to the other destination client the other stipulated media data portion in response to the other send request.

23. (Original) The one or more processor-accessible media as recited in claim 17, comprising the processor-executable instructions that, when executed, direct the system to perform a further action comprising:

receiving a command at the first device from the destination client to begin streaming a media data asset, the media data asset including the media data portion.

24. (Original) The one or more processor-accessible media as recited in claim 23, comprising the processor-executable instructions that, when executed, direct the system to perform a further action comprising:

scheduling, at the first device responsive to the received command, media data portions for sending to the destination client.

25. (Original) The one or more processor-accessible media as recited in claim 24, comprising the processor-executable instructions that, when executed, direct the system to perform a further action comprising:

transmitting from the first device respective send requests of a plurality of send requests to respective devices of a plurality of devices, each respective device storing a respective media data portion of a plurality of media data portions that form at least part of the media data asset.

26. (Original) The one or more processor-accessible media as recited in claim 17, wherein the action of transmitting a send request comprises an action of:

transmitting the send request from a scheduler functioning on the first device, the scheduler associated with the designated destination device and responsible for servicing media data requests received at the system from the designated destination device.

27. (Original) The one or more processor-accessible media as recited in claim 17, comprising the processor-executable instructions that, when executed, direct the system to perform a further action comprising:

receiving the send request at a sender on the second device, the sender associated with the stipulated media data portion and responsible for caching the stipulated media data portion at the second device in random access memory (RAM) thereof and for sending the stipulated media data portion to clients responsive to send requests directed thereto.

28. (Original) The one or more processor-accessible media as recited in claim 17, comprising the processor-executable instructions wherein the stipulated media data portion comprises one or more media data sub-blocks of a media data block of a media data segment, the media data block cached in random access memory (RAM) at the second device.

29. (Original) The one or more processor-accessible media as recited in claim 17, wherein the one or more processor-accessible media comprise at least one of (i) one or more storage media and (ii) one or more transmission media.

30. (Currently Amended) An arrangement for architecting distributed sending of media data, the arrangement comprising:

scheduler means for scheduling media data to be sent to multiple clients with which the scheduler means is associated, the scheduler means including send request means for generating send requests and associating a unique global priority therewith to requesting the sending of the media data to the multiple clients; and

sender means for sending media data portions to clients as scheduled by the scheduler means, the sender means including cache means for caching a distributed part of the media data as the media data portions, wherein the sender means sends the media data portions from the distributed part of the media data in response to send requests received from the send request means.

31. (Original) The arrangement as recited in claim 30, further comprising:

a plurality of respective sender means for sending respective media data portions to clients as scheduled by the scheduler means, the plurality of respective sender means including a plurality of respective cache means for caching respective distributed parts of the media data as their respective media data portions, wherein respective sender means of the plurality of respective sender means send their respective media data portions from their respective

distributed parts of the media data in response to respective send requests received from the send request means.

32. (Original) The arrangement as recited in claim 31, wherein a respective media data portion from each of the respective media data portions of each respective sender means of the plurality of sender means is sent to an individual client to form at least part of a media data asset.

33. (Original) The arrangement as recited in claim 30, further comprising:

a plurality of respective scheduler means for scheduling the media data to be sent to respective multiple clients with which each of the respective scheduler means is respectively associated, each respective scheduler means of the plurality of respective scheduler means including a respective send request means of a plurality of respective send request means for requesting from the sender means the sending of the media data to each of their respective multiple clients.

34. (Original) The arrangement as recited in claim 30, wherein the arrangement comprises at least one of (i) one or more processor-accessible media and (ii) at least one device.

35. (Original) The arrangement as recited in claim 30, wherein the send request means comprises means for formulating send requests wherein each send request includes a designated destination client of the multiple clients and a stipulated media data portion of the media data portions of the sender means to which a given send request is directed.

36. (Currently Amended) One or more processor-accessible media comprising processor-executable instructions that, when executed, cause a system to:

distribute respective media data blocks of a media data segment over respective devices of a plurality of devices;

create respective senders on the respective devices of the plurality of devices, each respective sender capable of ascertaining a threshold priority and sending a respective media data block of the media data blocks; and

create a scheduler on at least one device of the plurality of devices, the scheduler adapted to:

request the sending of the respective media data blocks from the respective senders to a destination client by sending a send request to the respective senders; and

associate a unique priority with the send request, wherein the respective senders are capable of sending the respective media data blocks to the destination client without using the scheduler.

37. (Original) The one or more processor-accessible media as recited in claim 36, comprising the processor-executable instructions wherein the respective senders are further capable of sending the respective media data blocks to the destination client without using the at least one device of the scheduler.

38. (Original) The one or more processor-accessible media as recited in claim 36, comprising the processor-executable instructions that, when executed, cause the system to create multiple schedulers with at least one scheduler of the multiple schedulers present on multiple devices of the plurality of devices; and wherein each scheduler of the multiple schedulers is adapted to request the sending of the respective media data blocks from the respective senders to differing destination clients.

39. (Original) The one or more processor-accessible media as recited in claim 38, comprising the processor-executable instructions wherein the respective senders are further capable of sending the respective media data

blocks to the differing destination clients responsive to send requests received from each scheduler of the multiple schedulers.

40. (Original) The one or more processor-accessible media as recited in claim 36, comprising the processor-executable instructions that, when executed, cause the system to distribute respective media data blocks of another media data segment over respective devices of the plurality of devices; wherein each respective sender is further capable of sending a respective media data block of the media data blocks of the other media data segment, and the scheduler is adapted to request the sending of the respective media data blocks of the other media data segment from the respective senders to another destination client.